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NORTH WALSHAM URBAN DISTRICT COUNCIL

ANNUAL REPORT

of the

MEDICAL OFFICER OF HEALTH

including the report of the

PUBLIC HEALTH INSPECTOR

for the

YEAR 1970

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MEMBERS OF THE NORTH WALSHAM URBAN DISTRICT COUNCIL

as at 31st DECEMBER, 1970

Chairman	Mr. R.C. Fiske	*
Vice-Chairman	Mr. J.E. Masters	*
	Mr. F.C. Bailey	+
	Mr. V.R. Fiske	+
	Miss R.A.F. Garnett	+
	Mr. E.W. Harmer	+
	Mr. C.G. Hipperson	+
	Mr. J.T.E. Jones	+
	Mr. D.B. Ling	+
	Mr. H.J.W. Osborne	+
	Mr. F.E. Plummer	+
	Mr. A.J. Powles	+(Chairman Public Health Committee)
	Mr. N. Stanley	+

+ Member of the Public Health Committee

* Ex-Officio member of the Public Health Committee

CLERK OF THE COUNCIL, CHIEF FINANCIAL OFFICER & RATING OFFICER

MR. R. V. NASH

OFFICERS OF THE PUBLIC HEALTH DEPARTMENT

Medical Officer of Health

Dr. G.R. Holtby, M.D., B.S., M.R.S.C., L.R.C.P., D.P.H., D.I.H.

Surveyor and Public Health Inspector

Mr. C.H. Carr, Cert. S.I.B. Meat and Food Inspector's Cert.

Deputy Surveyor

Mr. A.E. Nicholson, A.M.R.S.H., Cert. Meat Insp.

NORTH WALSHAM URBAN DISTRICT COUNCIL

Council Offices,
New Road,
North Walsham.

To the Chairman and members of the
North Walsham Urban District Council

Ladies and Gentlemen,

I have the honour to present the Annual Report for the year 1970. The Registrar General estimates the mid-year population as 5,870 compared with 5,820 last year. There were 92 live births and 92 deaths giving neither a natural increase nor decrease. There was thus a movement into the District of 50 people.

The birth rate was 18.8 per thousand population and the death rate 11.5 per thousand. The infant mortality rate (deaths under one year per thousand total live births) was 11.0 and the neonatal mortality rate (deaths under four weeks per thousand total live births) was 11.0.

There were no maternal deaths associated with child birth.

It has been the practice for some years to draw attention, in the introduction to the Annual Report, to some items of general public health interest. As so much has already been written so many times about the dangers of cigarette smoking, little space - much less than it deserves - will be devoted to this topic, on this occasion. It must suffice to state that the British lung cancer rate remains higher than that of all other English speaking countries, and this may be due to our cigarettes having a higher tar and nicotine content.

Those who continue to smoke despite the evidence should smoke less, take fewer puffs, use only the first half, and inhale as little as possible. In the U.S.A. it has been shown that those who had smoked filter cigarettes for ten years or more had only about 60% of the lung cancer rate of those who continued to smoke plain cigarettes, although both rates were much higher than that of non-smokers.

The greater liability to coronary artery disease associated with cigarette smoking is an acute risk, for stopping smoking promptly reduces the liability to that of non-smokers. All the more reason to stop smoking! One cannot say "The damage has already been done".

Has not the time come when in public transport such as trains at least as many compartments should be provided for non-smokers as for smokers instead of the present small proportion? We now know that smoking is pathological in its effects. Should there be more provision for the pathological than for the healthy? In hospital yes, but surely not in railway carriages!

We are not particularly prone to food poisoning in this District but there are special risks in the summer time because of the big influx of holiday makers.

It is necessary to define what one means by food poisoning as there is a good deal of misapprehension about the subject. Diarrhoea and vomiting caused by eating, for example, poisonous fungi, or food stewed in a galvanised pan, or potatoes with green buds on them could be described as food poisoning but an "Allergic" type of rash brought on by the eating of shell fish, etc., should not, by itself, be described as food poisoning. In practice food poisoning means the eating of food infected with one of three groups of bacteria or their toxins. The salmonellae are the most important group with a great many different types (which might be looked on perhaps as sub species.) The nomenclature is confusing in that the commonest germ to cause salmonellosis is *Salmonella typhimurium*, too similar in name to *Salmonella typhi*, which causes the much more serious condition of typhoid fever.

The possibilities of infections of food are very numerous, starting as they do in agricultural fertilizers, imported food stuffs for stock animals as well as some imported food for humans, and extending from the farm, through the abattoir and the shop. to the kitchen and the consumer.

There is not usually much spread of germs on the farm but young animals herded together on the way to the farm are under physical and emotional stress which favour spread.

At the abattoir the risk of infection of meat is considerable but provided it is properly stored, properly cooked and eaten soon after cooking, there should be no infection of humans. If, however, meat is stored at room temperature the germs have a chance to multiply and if it is inadequately cooked they may not be killed. Frozen poultry is particularly liable to be under-cooked, unless it is thoroughly thawed out before cooking.

The danger of infection of cooked meat by raw meat is often not realized. Infection can occur in a refrigerator if raw meat drips down to a lower compartment and is very liable to occur if knives are used for both raw and cooked poultry and other meat or if hands are not washed between drawing the birds and handling the cooked products.

As well as cattle, pigs and poultry, rats and mice and many other small animals, can suffer from, and become carriers of, types of salmonella pathogenic to man, and flies can also spread them. The implications are obvious.

Canned pet food is likely to be safe but other kinds may be infected and infection can spread not only from a pet to its owner but from a pet's food to its owner's food.

Shell fish such as mussels may be infected and so may artificial cream. This is not cooked and therefore any infection in it is not killed.

Salmonellae are not killed by freezing but their growth is inhibited. They do not multiply in a refrigerator. They are killed by adequate heat and by some chemicals, e.g. chlorine or potassium permanganate solution for washing lettuce leaves. Gamma radiation of foodstuffs is also a useful method of sterilisation.

The other two groups of food poisoning germs are staphylococci found on the hands and noses of 20 to 50% of normal people and in cuts and other septic lesions; and clostridia. In the case of staphylococci it is a toxin not the germs themselves which is responsible for the symptoms, of which vomiting is a marked feature. Clostridium welchii is a soil organism which colonizes the intestine of many animals including man. If spores of the germ are in meat which is allowed to cool gradually (instead of rapidly and then kept in a refrigerator) the spores will germinate to produce more bacilli and also toxin and the two together may cause food poisoning characterised by diarrhoea and especially by abdominal pain.

From what has been said already it may be obvious, but if not it should be stated, that while food should not be eaten if it is obviously unsound infected food may not differ in smell or taste from sound food.

Cases and carriers of infection, both in the bowel, usually a salmonella infection, and also in the nose and in septic lesions, are obvious dangers throughout the long chain of infection. Cases of diarrhoea and vomiting must be excluded from food handling but it is not realised widely enough that carriers cannot be rendered safe by repeated courses of antibiotics. On the contrary there is good evidence to show that such treatment will prolong rather than shorten the carrier state and should not be carried out.

It should not be supposed that every case of diarrhoea and vomiting is due to recognisable food poisoning germs, in fact many such cases are due to respiratory rather than alimentary infection, but undoubtedly far more food poisoning occurs than should occur, or would occur if the rules of hygiene were universally observed.

There may be many changes in the administration of public health in the next few years. Whatever they are one hopes that the sentiment expressed in an article in the British Medical Journal will not be lost sight of:-

"If only we would combine the intimacy of the small and old with the scientific advance of the large and new!"

I should like to take this opportunity of again expressing my thanks to the Chairman and Members of the Public Health Committee for their interest and support and the Staff of the Department for their painstaking work throughout the year. I consider myself very fortunate in both these important features of any Public Health work and gladly acknowledge this to be so.

I remain, Ladies and Gentlemen,

Your obedient Servant

G.R. HOLTBY

MEDICAL OFFICER OF HEALTH

SECTION A

NATURAL AND SOCIAL CONDITIONS

Area 4,256 acres. The Urban District consists of the town of North Walsham with a surrounding district entirely rural in character which includes two small hamlets, namely Spa Common and White Horse Common. The main industries of the town are vehicle container-body building and food canning, together with light engineering works, a plastics factory and a Laundry.

Educational facilities consist of the Paston Grammar School, the Girls' High School together with a Secondary Modern School, a Junior School and two Primary Infant Schools.

The Town is probably one of the most conveniently situated market towns in Norfolk and by virtue of its fine position, it is extremely healthy. The subsoil is of sand and gravel and the town receives the bracing air from the sea which is close at hand.

Population - the Registrar General estimates the population for mid-year 1970 to be 5,870

Number of Inhabited Houses - from the rate book, the number of inhabited houses in the district at the 1st April, 1971 was 2360 which included 615 Council houses.

The rateable value was £249,947 and the sum represented by a new penny rate was £2378 (equivalent 1d rate £991).

SUMMARY OF VITAL STATISTICS

Area in acres	4,256
Population (Registrar-General's mid-year estimate)	5,870
No. of inhabited houses in the rate book as at 1.4.71	2,360
Rateable value of all premises as at 1.4.71	£249,947
Sum represented by a new penny rate as at 1.4.71 ..	2,489

North Walsham U.D.C.	England & Wales
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DEATHS

Number	92	
Rate per 1,000 population (crude)	15.7	
" " " " (corrected)	11.5	11.7

LIVE BIRTHS

Number	92	
Rate per 1,000 population (crude)	15.7	
" " " " (corrected)	18.8	16.0

Illegitimate live births per cent of total live births	7.2	8.0
Stillbirths - Number	1	
Rate per 1,000 total live and Stillbirths ..	10.7	13.0
Total live and stillbirths	93	
Infant deaths (deaths under 1 year)	1	

INFANT MORTALITY RATES

Total infant deaths per 1,000 total live births	10.87	18.0
Legitimate infant deaths per, 1,000 legitimate live births	11.76	
Illegitimate infant deaths per 1,000 illegitimate live births	NIL	
Neo-natal Mortality Rate (deaths under 4-weeks per 1,000 total live births)	10.87	12.0
Early neo-natal Mortality Rate (deaths under 1 week per 1,000 total live births)	10.87	

North Walsham	England
<u>U.D.C.</u>	<u>& Wales</u>

Perinatal Mortality Rate (Stillbirths and deaths under 1 week combined per 1,000 total live and stillbirths) 21.50 23.0

Maternal Mortality (including abortion)

Number of deaths NIL

Rate per 1,000 total live and Stillbirths NIL

DEATHS FROM SPECIAL DISEASES

Measles (all ages)		-
Whooping Cough (all ages)		-
Enteritis (under 2 years of age)		-
Cancer (all ages)		17
Tuberculosis (all ages)		-

BIRTH RATE, DEATH RATE AND INFANT MORTALITY RATE

YEAR 1970

							England & Wales	North Walsham U.D.C. (Crude)
							Rates per 1,000 population	
BIRTHS -								
	Live	..	..	..	..	..	16.0	15.7
	Still	..	..	..	..	..	13.0	10.7
DEATHS - all causes							11.7	15.7
Infant Mortality Rate							18.0	10.87

DEATHS FROM CORONARY DISEASES - ANGINA - ISCHAEMIC HEART DISEASES

	1965	1966	1967	1968	1969	1970
No. of Deaths from Coronary Diseases	19	13	14	23	20	28
No. of Deaths - all causes	90	63	62	82	88	92
% of total Deaths due to Coronary Disease	22.1	20.6	22.5	28.0	22.7	30.4

DEATHS FROM CANCER AND TOTAL DEATHS

	1965	1966	1967	1968	1969	1970
No. of Deaths from Cancer	15	12	11	10	20	17
No. of Deaths, all causes	90	63	62	82	88	92
% of total deaths due to cancer	16.6	19.0	17.7	12.2	22.7	18.5

CANCER DEATHS DURING LAST SIX YEARS

Year	MALE			FEMALE		
	Total deaths - all causes	Lung Cancer	Other Cancers	Total deaths - all causes	Lung Cancer	Other Cancers
1970	46	4	6	46	1	6
1969	40	2	6	48	1	11
1968	43	6	2	39	-	2
1967	33	1	2	29	2	6
1966	29	2	5	34	1	4
1965	52	4	5	38	-	6

INDIVIDUAL CAUSES OF DEATH

								<u>Male</u>	<u>Female</u>
Malignant Neoplasm, Buccal Cavity Etc.	..	..	..					-	1
Malignant Neoplasm, Oesophagus	..	...	..	..	..			1	1
Malignant Neoplasm, Stomach	..	..	..	..	..			-	1
Malignant Neoplasm, Intestine	..	..	..	..	..			5	-
Malignant Neoplasm, Lung, Bronchus	..	..	..	..	..			4	1
Malignant Neoplasm, Breast	..	..	..	..	..	..		-	1
Leukaemia	..	..	..	..	..	..	..	-	1
Other Malignant Neoplasms	..	..	..	..	..	..	..	-	1
Mental Disorders	..	..	..	..	..	..	..	-	1
Other Diseases of Nervous System	..	..	..	..	..			2	-
Chronic Rheumatic Heart Disease	..	..	..	..	..	..		-	2
Ischaemic Heart Disease	..	..	..	..	..	..	..	10	11
Other Forms of Heart Disease	..	..	..	..	..	..	..	3	2
Cerebrovascular Disease	..	..	..	..	..	..	..	5	7
Other Diseases of Circulatory System	..	..	..	..	..			2	1
Influenza	..	..	..	..	..	..	..	-	1
Pneumonia	..	..	..	..	..	..	..	3	6
Bronchitis and Emphysema	..	..	..	..	..	..	..	3	2
Peptic Ulcer	..	..	..	..	..	..	..	-	1
Intestinal Obstruction and Hernia	..	..	..	..	..			-	1
Other Diseases of Digestive System	..	..	..	..	..			1	1
Nephritis and Nephrosis	..	..	..	..	..	..	..	2	-
Hyperplasia of Prostate	..	..	..	..	..	..	..	1	-
Diseases of Musculo-Skeletal System	..	..	..	..	..			2	1
Other causes of Perinatal Mortality	..	..	..	..	..			1	-
Symptoms and Ill Defined Conditions	..	..	..	..	..			-	1
Motor Vehicle Accidents	..	..	..	..	..	..	..	1	-
All other accidents	...	..	..	..	..	..	..	-	1
All Causes								<u>46</u>	<u>46</u>

VITAL STATISTICS OF THE DISTRICT FOR 1970 AND PREVIOUS YEARS
COMPARATIVE TABLE WITH ENGLAND AND WALES FOR PAST 10 YEARS

Year	Live Birth Rate per 1,000 population England & Wales	North Walsham U.D.	Death Rate per 1,000 population England & Wales	North Walsham U.D.	Infant Mortality Rate per 1,000 Live Births England & Wales	North Walsham U.D.
1970	16.0	18.8	11.7	11.5	18.0	10.87
1969	16.3	15.7	11.9	11.0	18.0	13.0
1968	16.9	19.1	11.9	10.3	18.0	15.8
1967	17.2	15.64	11.2	8.85	18.3	11.02
1966	17.7	15.74	11.7	8.62	19.0	27.39
1965	18.1	19.16	11.5	12.61	19.0	45.4
1964	18.5	16.33	11.3	10.6	20.9	13.7
1963	18.2	12.9	12.2	13.3	20.9	46.0
1962	18.0	13.7	11.9	12.0	21.4	NIL
1961	17.4	13.6	12.0	16.2	21.6	NIL
1960	17.1	14.3	11.5	12.5	21.7	NIL

SECTION 'B'

GENERAL PROVISIONS OF THE HEALTH SERVICE

NATIONAL HEALTH SERVICE ACT, 1946

Blofield and Flegg Rural District, together with Smallburgh Rural District and North Walsham Urban District, are combined to form No. 1 area. The Norfolk County Council, acting under the National Health Service Act of 1946 and the National Assistance Act, 1948, provides the following services:-

Care of mothers and young children, Midwifery Service, Home Nursing, Vaccination and Immunisation, Prevention of Illness and Care and After Care of Sick Persons, Home Help Service, Mental Health Service and Welfare Service for the Aged.

Some details are given below:-

Care of Mothers and Young Children

This includes the provision of Child Health Clinics to which mothers of young children can come for advice and help. A Clinic is held at the Youth Centre, North Walsham, on the second Thursday of each month and is attended by a Medical Officer and the Health Visitor.

OTHER TREATMENT CENTRES are held weekly as follows:-

- | | | |
|---------------|---|--|
| Dental Clinic | - | North Walsham Secondary Modern School, Spenser Avenue
(Six Sessions). |
| Speech Clinic | - | North Walsham Secondary Modern School (One session) |

HOME HELP SERVICE

During 1970 the Home Help Service was mainly administered from the Area Local Health Office at Aspland Road, Norwich, and all applications addressed to the Area Welfare Officer at that Office. The work of the Home Helps was supervised by one of the County Council's Lady Home Help Organisers and this service continued to expand.

AMBULANCE SERVICE

The County Ambulance Service is operated by the County Council through the Agency of the Norfolk St. John's Ambulance Brigade and British Red Cross Society Joint Ambulance Committee.

GENERAL WELFARE SERVICES

These services are administered in the district by the Area Welfare Officer, Mr. C. J. Gallant, together with a team of three Social Welfare Officers. The contact point at 18 Kings Arms Street, North Walsham, has been maintained throughout the year.

NATIONAL ASSISTANCE ACT, 1948

WELFARE SERVICES

The Welfare Officers deal with the admission of aged persons to County Homes for the Elderly, either on a short term or a long term basis and besides dealing with admissions to Mental Hospitals they are responsible for the care of the mentally sub-normal living in the community and also of patients discharged from or on leave from mental hospitals.

The Meals-on-Wheels service continues to function well and 24 meals are being served on two days each week.

OTHER SERVICES

LABORATORY FACILITIES

Facilities for Laboratory investigation are to be had at the Public Health Laboratory, Bowthorpe Road, Norwich.

NATIONAL ASSISTANCE (1948) Act, Section 47

There were no cases where action had to be taken.

SECTION C

SANITARY CONDITIONS OF THE DISTRICT

WATER SUPPLY

Source - all mains Water is pumped from underground workings in chalk deposits at the Southern end of the town. It is passed through Candy filters for the removal of iron and chlorination is carried out giving a residual of 0.2 parts per million. The water is then stored in two towers before distribution. Some isolated properties in the outlying parts of the district are supplied by wells.

The mains supply is augmented when necessary by the link watermain from Felmingham and a 3" diameter watermain from the Smallburgh Rural District serves approximately twelve properties in the Little London area.

NORWICH WATER ORDER 1970

On the 8th January 1970 the Norwich Water Order, 1970 was made, and came into operation on 25th April, 1970. The Order provided for the transfer of the Council's water undertaking (together with those of Cromer and Sheringham U.D.C. and the rural districts of Blofield and Flegg, Erpingham, Forehoe and Henstead, Loddon, Mitford and Launditch, St. Faith's and Aylsham and Smallburgh) to the Norwich Corporation and the actual day of transfer would be 1st April 1971.

WATER SUPPLIED DURING THE YEAR

Own sources - underground - Total pumped	=	68,118,000	gallons
Bulk Supplies taken.. .. .	=	20,149,000	"
Total supplied, all sources	=	88,267,000	"
Metered Supplies	=	23,126,000	"
Unmetered Supplies.. .. .	=	65,141,000	"
Unmetered supplies per head of resident			
population =		30.66	gallons per day

PROPOSED NEW SOURCE

The County Public Health Engineering Department continued during the year for the development of the new source at Knapton and this scheme received the full support of the Norwich City Water Committee. In October at a meeting of the Council, it was resolved that the Council proceed with Stage 1 of the scheme as quickly as possible.

NEW MAINS - during the year, mains were laid to serve new housing estate development at Melbourne Road, Ashfield Road, Mayfield Way, Wilkinson Way and Redman Road. A new main to serve outlying isolated properties in Bradfield Road was also completed.

WATER SAMPLING

Regular sampling of supplies within the district was carried out for the purposes of bacteriological examination by the Public Health Laboratory Service. Details of samples taken are as follows -

Treated water in supply	29	samples
Raw Water (untreated at Source)	8	"
Felmingham Link Main	8	"
Little London (supply from Smallburgh R.D.C.)	4	"
Private boreholes	3	"
Shallow wells	12	"
	64	

RESULTS OF CHEMICAL ANALYSIS IN PARTS PER MILLION

Ammoniacal Nitrogen	-	neg.trace	Calcium as Ca	-	100
Albuminoid Nitrogen	-	0.01	Magnesium as Mg	-	16
Nitrate Nitrogen	-	Nil	Sodium as Na	-	34
Nitrite Nitrogen	-	Nil	Carbonate as CO_3	-	138
Chlorion as Cl	-	50	Chloride as Cl ³	-	50
Permanganate Value	-	0.42	Sulphate as SO_4	-	65
	-		Nitrate as NO_3	-	Nil
Hardness as CaCO_3			Iron as Fe ³	-	1.8
Total	-	315	Fluorine as F	-	0.25
Carbonate (temporary)	-	230	Silica as SiO_2	-	12
Non-carbonate (permanent)	-	85			
Alkalinity as CaCO_3	-	230			
Free Carbon Dioxide	-	22			
Total solids (at 180°C)	-	430			
Iron (total)	-	1.8			
Metals in solution	-	Nil			

pH 7.4

Opinion "This water is of very good organic quality and there is no chemical evidence of pollution. The analysis as a whole differs only in minor details from that of the previous year. Provided the iron is removed by suitable treatment, this water should then be suitable for distributaion as a public supply."

The mains water supply was satisfactory in quality during the year but it was necessary to impose restrictions on use of hosepipes from the 11th June to 1st September, 1971.

WATER STATISTICS

Plumbo-Solvent Action	None
No. of dwellings supplied (direct to houses)	2335
No. supplied by standpipe	25 (estimated)
No. of population supplied by standpipe	60 (")
Total quantity of water supplied during 1970	88,267,000 gallons
Daily average of water supplied	241,827 gallons
Total supplied during peak week	
(i.e. week-ending 19th July 1970)	2,073,000 gallons
Daily average during peak week	296,143 gallons

CONSUMPTION IN MILLIONS OF GALLONS

1970	1969	1968	1967	1966	1965
88.3	87.5	79.6	80.0	75.7	69.6

SEWERAGE AND SEWAGE DISPOSAL

The sewage disposal works operated satisfactorily during the year and the final effluent field tests (using the permanganate method of testing) indicated a good effluent.

The East Suffolk and Norfolk River Authority also took samples of final effluent and reported as follows:-

<u>Date</u>	<u>B.O.D.</u>	<u>Suspended Solids</u>
23.1.70	9.0 p.p.m.	30.7 p.p.m.
27.2.70	11.2 "	29.3 "
18.3.70	10.8 "	20.0 "
23.4.70	16.6 "	59.3 "
22.5.70	4.2 "	24.0 "
22.6.70	40.5 "	55.3 "
20.7.70	24.1 "	30.7 "
27.8.70	10.6 "	15.0 "
2.9.70	17.1 "	29.0 "
17.9.70	13.5 "	27.3 "
21.10.70	10.5 "	33.3 "
25.11.70	13.1 "	43.3 "

The facilities of the Norfolk County Council's Laboratory Service were fully utilised and effluent samples at the Local Canning factory were regularly taken, the following example is typical of the results:-

	<u>B.O.D.</u>	<u>Suspended Solids</u>
Sample of effluent at factory outlet	2,680 p.p.m.	1,250 p.p.m.
Crude Sewage at Sewage Works Inlet	824 "	376 "
Final Effluent at Sewage Works	10.2 "	27 "

The advice of the County Council's chemist was also sought on the question of chlorination of the sewers. This treatment had been carried out upstream of the canning Factory's sewer inlet in an attempt to eradicate the spasmodic smell nuisance which had arisen from time to time. The Chemist's opinion confirmed that as the cannery effluent is twice as strong as normal domestic sewage, a heavy addition of chlorine would be needed to sterilise it and this would affect the working of the sewage treatment works.

All complaints of "sewer smells" were recorded in an endeavour to ascertain if these could be associated with a particular location and thus sample the effluent to prove septicity.

SLUDGE DISPOSAL - the removal of treated liquid sludge onto agricultural land continued successfully during the year due to the co-operation of Local Farmers. The Council decided therefore to authorise the purchase of a 1,000 gallon capacity tanker in 1971 in order to continue this method of sludge disposal.

NEW SEWERS - new sewers were laid by developers on all new housing sites and these were incorporated into the Section 40 agreements between the Council and the various developers.

Except for the rural outskirts of the town, including the two hamlets of Spa Common and White Horse Common, the district is drained by gravity sewer. Many of the properties in these rural outskirts are served by septic tanks and the remainder are subject to night soil collection by contractor.

POLLUTION OF RIVERS AND STREAMS. - no pollution of streams were known to have occurred during the year.

PUBLIC CONVENIENCES - the conveniences at the Butchery and the War Memorial were satisfactorily maintained during the year. Isolated complaints were made as a result of vandalism and the dirty habits of a minority of the public.

PREVENTION OF DAMAGE BY PESTS ACT, 1949

One part-time rodent operator is employed by the Council for the destruction of rats and mice, using methods and materials as approved by the Ministry of Agriculture, Fisheries and Food. Regular routine visits were made to all Council properties, particularly the refuse tip and the sewers were inspected for evidence of infestation. All private dwellings were treated free of charge on receipt of complaint and business premises were dealt with on a 'time and material' basis.

The following statistics (as required by the Ministry) show the actual number of infestations which occurred :-

	Type of property	
	Non-Agricultural	Agricultural
1. Number of properties in the district	2,690	63
2. (a) Total number of properties (including nearby premises) Inspected following notification.	157	-
(b) Number infested by (a) rats	96	-
(b) mice	3	-
3. (a) Total number of properties inspected for rats and/or mice for reasons other than notification.	284	5
(b) Number infested by (i) rats	17	-
(ii) mice	-	-

A greater number of inspections were made during the year and "block control" treatments accounted for this more thorough approach to the problem of rodent infestation.

COLLECTION AND DISPOSAL OF REFUSE

Refuse collection was carried out throughout the whole urban district by means of one vehicle and five employees, viz. one chargehand loader/driver and four collectors. Collection was made from each household, there being no kerbside collections. White Horse Common, Spa Common and outlying properties were collected on a fortnightly basis and shop refuse was removed each Wednesday.

The vehicle was an 18/27 cu. yd. Karrier Gibson rear loading vehicle purchased in 1965 and due for renewal in 1972. Its capacity necessitates two visits per day to the tip.

Various surveys of the district in relation to refuse collection had been carried out by my predecessors and since taking up my duties in 1968, two detailed surveys have been made, one in October, 1968 and the other in May, 1970 with the following results:-

Date	No. of Houses	No. of Operators at time of Survey	Bins Collected	Other Containers Collected *
Oct. 1968	2225	1 driver and 3 loaders	2539	325
May 1970	2296	1 driver and 4 loaders	2769	895

(* "Other containers" were other items which were not in the dustbin and required further visits to properties.)

The constant increase in packaging materials automatically reflects on the volume of refuse which has to be removed and disposed of and with the greater use in the home of gas, electric and oil-fired central heating, this reduces the home methods of destruction.

The collection service was erratic during parts of the year and it was necessary to work overtime on many occasions in order to maintain a regular weekly collection and this naturally reflected on the ultimate cost of the service.

The introduction of a bonus scheme for refuse collectors was considered by the Council during the year for possible inception during 1971. The scheme was to be formulated by the Norfolk County Council's Management Services Department and it was envisaged that this would improve efficiency as well as making the refuse collectors job more financially attractive.

The disposal of all refuse was at the Council owned tip at White Horse Common. This is controlled with tractor and hired plant is used as required.

NOISE ABATEMENT ACT, 1960

The sub-committee which had been formed in September 1969 to deal with industrial noise nuisances met on various occasions during the year.

A reduction in the noise level at one factory was achieved after consultation with the management whilst other industrial noise was to be abated by the enforcement of planning conditions incorporated in the original planning approvals given when the industries concerned were first established.

CLEAN AIR ACT, 1960

No major troubles from air pollution occurred in the district during 1970. The gas condensate storage depot became operational during the year and was supplied by road tankers from the Bacton Gas Site Terminal and some complaints were received regarding smell. With the laying of the new condensate gas main, it was anticipated that these initial smells would be obviated.

Various scrap metal dealers were informally warned during the year concerning their practice of burning vehicle tyres.

CONTROL OF CAMPING AND MOVEABLE DWELLINGS

One holiday centre is licensed within the district under the Caravan Sites and Control of Development Act, 1960. This consists of holiday chalets and a maximum of 85 caravans. The centre was well managed during the year and with its various amenities, provides an ideal development for the many visitors to the area.

A survey made in early August (in conjunction with Norfolk County Council) showed a total of 34 caravans in the district as follows:-

Holiday Static	. . . 23
Holiday Touring	. . . 5
Residential	. . . 6

SCRAP METAL DEALERS ACT, 1964

At the 31st December, there were twelve dealers in the district registered under the provisions of the Act.

ANIMAL BOARDING ESTABLISHMENTS ACT, 1963

One Licence was issued under this Act during 1970

COMMON LODGING HOUSES

There are no common lodging houses in the district.

STORAGE OF PETROLEUM SPIRIT

A total of 20 licences to store petroleum spirit were issued during 1970 together with two licences for the storage of carbide of calcium. All installations were inspected to ensure compliance with the requirements of the relevant legislation.

GAS CONDENSATE

Extraction of natural gas from the North Sea, which is processed at Bacton, provided an unexpectedly large amount of gas condensate. It is vital that this condensate be moved from the site otherwise production would grind to a halt and after exploring many methods of removing this condensate it was finally decided to ship it by rail in railcars from North Walsham station. In the initial stages it was transported from Bacton to North Walsham in road tankers and transhipped at North Walsham.

A depot was constructed, and because of its close proximity to the town and also because it is sited on a permeable strata which has access to the water bearing strata of the district, many special features had been provided at this depot, which are not normally provided in a petrol storage depot of this size.

Having established that the condensate was at least equal to Grade A petroleum and because of the possibility of large volumes of gas being given off when pumping occurred which were likely to cause damage from explosion and/or objectionable odours, floating roof type of storage tanks were required and eventually fitted by the controlling agency, British Pipeline Agency.

Due to highway congestion, the problems of odours escaping during transport by road and at the point of discharge at North Walsham, British Pipeline Agency decided to lay a gas condensate pipeline direct from Bacton to North Walsham depot to come into operation in January 1971. They also propose during 1971 to install a system of railcar tanker loading which will obviate the initial individual railcar tanker loading points and will in fact mean that railcar tankers will only be filled at two points along the siding. They have already put in hand processes for the removal of dissolved gasses which should have a marked affect on the reduction of odour problems at the North Walsham depot.

Various modifications have been introduced in the depot in the light of experience and no doubt further points will be added as time progresses, one modification proposed for the future being the complete control of the movements of this condensate between Bacton and North Walsham from the depot at North Walsham instead of, as at the present time, from Bacton.

STORAGE OF AQUEOUS AMMONIA FOR LAND FERTILIZATION

The process of injecting ammonia into the soil has been in practice for a number of years. Two methods are in use:-

- (a) Direct injection of Gaseous ammonia and
- (b) Direct injection of Aqueous ammonia into the soil.

The claim for this process is that it needs to be carried out only once annually as ammonia lays dormant in the soil until weather conditions and the needs of the growing plant causes an immediate release of nitrogen. Advantage to the farmer is reduced labour costs and reduction in the amount of travelling on production land.

Aqueous ammonia which varies in strength from about 21% in the Summer months to 33% in the coldest winter months is delivered by road vehicle to farms in closed containers.

As part of the service 1,000 gallon soft clear plastic pod containers are delivered and the liquid pumped into these containers. Although the containers are of flimsy appearance, they are of tough, heavy duty polythene, and, it is claimed, can withstand stock walking on them and because of the nature of the containers they follow the contours of the ground and are not easily cut by stones.

A situation arose during the year when a 1,000 gallon plastic container was damaged, allegedly by vandals and aqueous ammonia discharged onto the highway. This situation had arisen because the plastic containers had been temporarily left on the roadside and the delivery vehicle had arrived when fields were extremely wet and soft and as a result the plastic pods had been filled and left on the road side. Fortunately no serious damage or repercussions arose from this as the ammonia was pumped into roadside drains and soakaways.

It would seem that as a result of this incident some safeguards ought to be introduced at a national level to ensure proper management of these operations and to safeguard the public from the dangers of ammonia fumes and/or liquid when going about their lawful business, and the matter was subsequently taken up by the Medical Officer of Health at National level.

The Ministry of Agriculture and Fisheries were approached locally and a copy of my report was brought to their attention. They were extremely grateful for the notification of the incident and advise that a close watch is being kept on this type of fertilizer and it was felt that this was an isolated incident. The two contracting firms directly implicated in the incident gave an assurance that in future the plastic pod containers would be left on enclosed premises and arrangements would be made for longer delivery hoses to be supplied with the containers to enable them to fill the pod containers from the roadside when field conditions were extremely bad.

CEMETERIES, PARK, ETC

The two cemeteries, the closed churchyard, the War Memorial Park and various open spaces were satisfactorily maintained.

A total of 44 burials took place during the year.

OFFICES, SHOPS & RAILWAY PREMISES ACT, 1963

The following tables which include the information required for the returns to the Department of Employment summarize the activities of the Department in this field of environmental health during 1970.

Two accidents were notified during the year, both of which were investigated but were found not to be of a serious nature.

THE OFFICES, SHOPS AND RAILWAY PREMISES ACT 1963

Table A - registrations and General Inspections

Class of premises (1)	No. of premises newly registered during the year. (2)	Total No. of registered premises at end of year (3)	No. of registered premises receiving a general inspection during the year (4)
Offices	1	37	8
Retail Shops	1	50	14
Wholesale Depts. Warehouses	-	-	-
Catering establish- ments open to the public, canteens	-	3	3
Fuel Storage Depots	-	-	-

Table B - Number of visits of all kinds of Inspectors to registered premises :- 67

Table C - Analysis of persons employed in registered premises by workplace

Class of Workplace (1)	No. of persons employed (2)
Offices	106
Retails Shops	187
Wholesale departments, warehouses	-
Catering establishments open to the public	12
Canteens	-
Fuel Storage Depots	-
Total	305
Total Males	126
Total Females	179

Table D - Exemptions

Part 1	-	Space (Sec. 5) (2)	NIL
Part II	-	Temperature (Sec. 6)	NIL
Part III	-	Sanitary Conveniences (Sec. 9)	NIL
Part IV	-	Washing facilities (Sec. 10)	NIL

Table E - Prosecutions

NIL

Table F - Inspectors - 2 (Part-time and in conjunction with other duties).

SECTION D

HOUSING

The following statistics indicate work during the year associated with the various aspects of housing:-

(a) NEW BUILDINGS

No. of applications for Planning and/or Building Consent . . . 270

No. of new houses completed during the year by the Council . . . NIL

No. of new houses completed during the year by other persons . . . 61

No. of new houses under construction at 31.12.70:

(a) by the local authority - 28

(b) by other persons - 39

IMPROVEMENTS & CONVERSIONS

Type of Grant	No. of Applications	No. Approved	Value of Grant Approved	No. Completed
Full Standard (normal limit)	8	7	1010	5
Full Standard (higher limit)	4	4	1126	6
Discretionary	5	4	2645	2

NEW COUNCIL DEVELOPMENT

The first phase consisting of 28 bungalow was commenced in April 1970 at the Bluebell Road/Bacton Road development and by the end of the year all the bungalows were roofed and internal works underway.

A further 114 dwellings consisting of flats and houses were planned for the remainder of the development and the site works for this area were commenced in November.

COUNCIL HOUSE IMPROVEMENTS - the first phase of improvements to Council pre-war houses was commenced in June. There are a total of 141 houses to be improved and the first phase consisted of 63 dwellings at the Millfield estate. By the end of the year, a total of 26 had been completed.

PRIVATE DEVELOPMENT A total of 61 private dwellings were completed during the year and a summary of the past five years' completions are as follows:-

1970	1969	1968	1967	1966
61	65	76	50	57

SECTION E

INSPECTION AND SUPERVISION OF FOOD

SLAUGHTERHOUSES AND MEAT INSPECTION

The number of food animals killed at the one slaughterhouse within the district showed little variation to the previous year:-

	<u>Cattle</u>	<u>Sheep</u>	<u>Pigs</u>
1970	84	42	280
1969	79	37	296

The agreed days of slaughtered, i.e. Monday and Thursday remained the same except for public holidays when an amicable agreement was reached. No emergency slaughter was necessary during the year and a total of 82 visits were made to give 100% inspection of all carcasses and offal.

The slaughterhouse was well managed and maintained during the year and any items brought to the owner's attention were expeditiously dealt with.

Two slaughtermen were licensed during the year for the slaughter of food animals.

The following table summarises the results of inspections made:-

	Cattle excluding cows	Cows	Calves	Sheep & Lambs	Pigs	Horses
Number killed	84	-	-	42	280	-
Number inspected	84	-	-	42	280	-
All diseases except Tuberculosis and Cysticerici whole carcasses condemned	-	-	-	-	-	-
Carcasses of which some part or organ was condemned	21	-	-	4	41	-
Percentage of the number inspected affected with diseases other than Tuberculosis & Cysticerici	25.0%	-	-	9.52%	14.64%	-
Tuberculosis only whole carcasses condemned	-	-	-	-	-	-
Carcasses of which some part or organ was condemned	-	-	-	-	3	-
Percentage of the number inspected affected with Tuberculosis	-	-	-	-	1.07%	-
Cysticercolosis Carcasses of which some part or organ was condemned	-	-	-	-	-	-
Carcasses submitted to treatment by refrigeration.	-	-	-	-	-	-
Generalised and totally condemned	-	-	-	-	-	-

OTHER FOOD

533 industrial cans of tomato puree and 3cwt and 75lbs of other foods were found to be unfit and dealt with by surrender and disposal by burying at the Council's tip.

A local store was prosecuted by the County Council for selling potatoes which were found to be unfit by reason of a maggot infestation. The purchaser of the potatoes had contacted the County Council direct but this department was naturally informed and gave evidence at the subsequent hearing.

FOOD PREMISES

(a) Food Hygiene (General) Regulations, 1960

Visits to food premises were made as frequently as possible to secure compliance with these Regulations. It is regretted however that these important duties are not carried out on a routine basis due to the pressure of other work in the department.

The following types of premises are subject to the above Regulations:-

<u>Type of Premises</u>	<u>No.</u>
Bakeries	4
Butchers Shops	5
Fish Shops	4
Cafes, Restaurants and Canteens	9
Grocers and General Stores	13
Licensed Premises	9
Food Factories	2

The Food Hygiene (General) Regulations, 1970, will come into operation on 1st March 1971 and these will consolidate and amend the Food Hygiene (General) Regulations, 1960 and 1962 and one of the principal changes will make the business of packing or storing eggs, fruit or vegetables on farm premises subject to certain requirements.

(b) Poultry Processing Premises

The Department of Health asks for details of any poultry processing premises within the district but except for intensive rearing establishments, no processing is known to be carried out.

(c) Ice-Cream Premises

There are 12 premises licensed for storage and sale of ice-cream.

(d) Preserved Food Premises

There are 7 premises licensed for the preparation and manufacture of preserved foods.

SECTION F

INCIDENCE OF INFECTIOUS DISEASES (EXC. T.B.) DURING LAST 5 YEARS

	1966	1967	1968	1969	1970
Scarlet Fever	2	-	-	11	-
Measles	63	13	32	10	192
Whooping Cough	-	-	11	-	-
Pneumonia	-	1	1	-	-
Infective Jaundice	-	-	-	4	2
Dysentery (Sonne)	54	-	-	-	-
Food Poisoning	-	-	-	1	-
Puerperal Pyrexia	2	-	-	-	-
TOTALS	121	14	44	26	194

VACCINATION AND IMMUNISATION

Inoculations performed by General Practitioners and Public Health Medical Officers during the year in Area No. 1. are shown in the following tables:-

TABLE 1 - Completed Primary Courses.

Type of Vaccine	1970	Year of Birth 1969	1968	1967	1963- 1966	Others under 16	TOTAL
Triple (DTP)	118	593	115	3	7	-	836
Diph/Tet.	-	1	1	-	25	1	28
Tetanus	1	-	-	-	11	9	21
Polio (Oral)	113	529	125	5	37	2	811
Measles	1	192	236	119	461	35	1044
Rubella						4	4

TABLE 2 - Re-inforcing doses

Triple (DTP)	-	8	119	16	52	4	199
Diph/Tet	-	-	8	12	850	56	926
Diphtheria	-	-	-	-	3	-	3
Tetanus	-	-	-	3	25	467	495
Polio (Oral)	-	4	71	19	907	648	1649

SMALLPOX VACCINATION

Age at date of Vaccination	0-3 mths	3-6 mths	6-9 mths	9-12 mths	1yr.	2-4 yrs.	5-15 yrs.	TOTAL
Primary	-	3	7	22	365	108	28	533
Re-Vaccination	-	-	-	-	2	8	63	73

B.C.G. VACCINATION

This protection against tuberculosis is offered to all 13 year old school children. In Area No. 1. 87% of parents gave their consent, 9% refused and 4% did not return forms.

The findings during the year were as follows:-

Number eligible	-	1,053
Number tested	-	861
Number positive	-	72
Number vaccinated	-	745
Tuberculin Index	-	8%

TUBERCULOSIS

The following are the mortality Rates:-

Pulmonary Tuberculosis Mortality Rate	0.00	per	1,000	population
Non-pulmonary	"	"	0.00	" " "

NUMBER OF CASES OF TUBERCULOSIS ON REGISTER

at 31st DECEMBER 1969 and DECEMBER 1970

	Pulmonary		Non-Pulmonary		Total	
	Males	Fem.	Males	Fem.	Males	Fem.
31st December 1969	12	13	2	1	14	14
31st December 1970	12	12	2	1	14	13

INFECTIOUS DISEASES

MEASLES

192 cases of measles were notified during the year compared with 10 cases last year. Immunisation against this complaint is now readily available and there is no doubt that it is effective in reducing the incidence of the disease which in an unmodified form is frequently associated with severe complications particularly those involving the ears and the chest as well as with encephalitis. It should also be emphasised that the vaccine now in use is a safe vaccine. Parents should be encouraged to arrange for their children to be immunised either by doctors from the Public Health Department or by general practitioners.

As the vast bulk of notified infectious diseases were cases of measles it is evident that immunisation was not sufficiently popular among parents. It is to be hoped that this state of affairs will not continue.

WHOOPING COUGH

No cases were notified during the year and there were none last year. The complaint is now seldom a serious one and immunisation must be responsible for this improved situation. Children with a history of repeated convulsions, however, should not be given whooping cough immunisation although they can be immunised against diphtheria and tetanus.

SCARLET FEVER

Nil cases were notified compared with 11 last year. Whilst scarlet fever itself is seldom a dangerous disease in this country, the germ which causes it is the haemolytic streptococcus and cannot be ignored, as both rheumatic fever and kidney disease can result from an infection which may be associated with a rash as in scarlet fever, but may merely cause a severe sore throat.

FOOD POISONING

Nil cases were notified during the year and there was one last year.

INFECTIVE JAUNDICE

2 cases were notified compared with 4 last year and nil the year before. This complaint can be a most debilitating one and largely because of the long incubation period of about a month, it is very difficult to trace the sources of any particular case.

IMMUNISATION SCHEDULE

The schedule of immunisation in Norfolk County Council Child Health Clinics and Schools is now the following -

Immunisation against whooping cough, diphtheria and tetanus (the triple injection) at 4 months, 6 months and 1 year. Poliomyelitis vaccine is given by mouth at the same time as those injections. The increased spacing of injections eliminated the need to give a boosting injection at 18 months to 2 years while retaining the same efficacy.

We carry out measles vaccination after first birthday. 'Booster' injections against diphtheria and tetanus with poliomyelitis immunisation by mouth are given at school entry and another tetanus injection and polio immunisation on leaving school.

Immunisation against tuberculosis or B.C.G. vaccination is carried out, after testing whether the individual child requires it, for third-year Pupils at Secondary Schools.

Immunisation against rubella or German measles, is now carried out for 13 year old girls. The purpose of this immunisation is different from that of the others. The infection is not serious for the patient, but when it occurs in a pregnant woman damage may be caused to the foetal heart, eyes, ears, or brain. Thus in this Country immunisation is offered only to females and is preferably given before reaching child bearing age. It is not recommended after pregnancy has commenced.

FACTORIES ACT, 1961

PART 1 OF THE ACT

1. INSPECTIONS for the purpose of provision as to health (including inspections made by the Public Health Inspector)

Premises (1)	No. on Register (2)	Inspection (3)	No. of written Notices (4)	Occupiers prosecuted (5)
(i) Factories in which Sections 1,2,3,4 and 6 are to be en- forced by the Local Authority	5	2	-	-
(ii) Factories not included in (i) : in which Sec.7 is enforced by the Local Authority.	35	6	-	-
(iii) Other premises in which Sec.7 is enforced by Local Authority (excluding out- workers premises)	6	6	-	-

2. - Cases in which DEFECTS were found -

Particulars (1)	Found (2)	Remedied (3)	Referred		No. of cases in which prosecutions were instituted (6)
			To H.M. Inspector (4)	By H.M. Inspector (5)	
Want of cleanliness (S.1)	-	-	-	-	-
Overcrowding	-	-	-	-	-
Unreasonable temperature (S.3)	-	-	-	-	-
Inadequate ventilation (S.4)	-	-	-	-	-
Ineffective drainage of floors (S.6)	-	-	-	-	-
Sanitary conveniences (S.7)					
(a) insufficient	-	-	-	-	-
(b) unsuitable or defective	-	-	-	-	-
(c) not separate for sexes	-	-	-	-	-
Other offences against the Act (not including offences relating to outwork)	-	-	-	-	-
Total	-	-	-	-	-

Outwork

(Sections 133 and 134)

There were no notifications of outworkers received during the year

Name of compound	Molecular weight		Boiling point	Density	Ref.
	(a)	(b)			
Acetic acid	60	60	118	1.05	(1)
Propionic acid	74	74	141	0.99	(2)
Butyric acid	88	88	164	0.92	(3)
Pentanoic acid	102	102	186	0.88	(4)
Hexanoic acid	116	116	205	0.86	(5)
Heptanoic acid	130	130	221	0.84	(6)
Octanoic acid	144	144	239	0.82	(7)
Nonanoic acid	158	158	255	0.81	(8)
Decanoic acid	172	172	271	0.80	(9)
Undecanoic acid	186	186	286	0.79	(10)
Dodecanoic acid	200	200	301	0.78	(11)
Tridecanoic acid	214	214	315	0.77	(12)
Tetradecanoic acid	228	228	330	0.76	(13)
Pentadecanoic acid	242	242	344	0.75	(14)
Hexadecanoic acid	256	256	358	0.74	(15)
Heptadecanoic acid	270	270	372	0.73	(16)
Octadecanoic acid	284	284	386	0.72	(17)
Nineteconoic acid	298	298	400	0.71	(18)
icosanoic acid	312	312	414	0.70	(19)
heneicosanoic acid	326	326	428	0.69	(20)
docosanoic acid	340	340	442	0.68	(21)
tricosanoic acid	354	354	456	0.67	(22)
triacontanoic acid	368	368	470	0.66	(23)
triacontanoic acid	382	382	484	0.65	(24)
triacontanoic acid	396	396	498	0.64	(25)
triacontanoic acid	410	410	512	0.63	(26)
triacontanoic acid	424	424	526	0.62	(27)
triacontanoic acid	438	438	540	0.61	(28)
triacontanoic acid	452	452	554	0.60	(29)
triacontanoic acid	466	466	568	0.59	(30)
triacontanoic acid	480	480	582	0.58	(31)
triacontanoic acid	494	494	596	0.57	(32)
triacontanoic acid	508	508	610	0.56	(33)
triacontanoic acid	522	522	624	0.55	(34)
triacontanoic acid	536	536	638	0.54	(35)
triacontanoic acid	550	550	652	0.53	(36)
triacontanoic acid	564	564	666	0.52	(37)
triacontanoic acid	578	578	680	0.51	(38)
triacontanoic acid	592	592	694	0.50	(39)
triacontanoic acid	606	606	708	0.49	(40)
triacontanoic acid	620	620	722	0.48	(41)
triacontanoic acid	634	634	736	0.47	(42)
triacontanoic acid	648	648	750	0.46	(43)
triacontanoic acid	662	662	764	0.45	(44)
triacontanoic acid	676	676	778	0.44	(45)
triacontanoic acid	690	690	792	0.43	(46)
triacontanoic acid	704	704	806	0.42	(47)
triacontanoic acid	718	718	820	0.41	(48)
triacontanoic acid	732	732	834	0.40	(49)
triacontanoic acid	746	746	848	0.39	(50)
triacontanoic acid	760	760	862	0.38	(51)
triacontanoic acid	774	774	876	0.37	(52)
triacontanoic acid	788	788	890	0.36	(53)
triacontanoic acid	802	802	904	0.35	(54)
triacontanoic acid	816	816	918	0.34	(55)
triacontanoic acid	830	830	932	0.33	(56)
triacontanoic acid	844	844	946	0.32	(57)
triacontanoic acid	858	858	960	0.31	(58)
triacontanoic acid	872	872	974	0.30	(59)
triacontanoic acid	886	886	988	0.29	(60)
triacontanoic acid	900	900	1002	0.28	(61)
triacontanoic acid	914	914	1016	0.27	(62)
triacontanoic acid	928	928	1030	0.26	(63)
triacontanoic acid	942	942	1044	0.25	(64)
triacontanoic acid	956	956	1058	0.24	(65)
triacontanoic acid	970	970	1072	0.23	(66)
triacontanoic acid	984	984	1086	0.22	(67)
triacontanoic acid	998	998	1100	0.21	(68)
triacontanoic acid	1012	1012	1114	0.20	(69)
triacontanoic acid	1026	1026	1128	0.19	(70)
triacontanoic acid	1040	1040	1142	0.18	(71)
triacontanoic acid	1054	1054	1156	0.17	(72)
triacontanoic acid	1068	1068	1170	0.16	(73)
triacontanoic acid	1082	1082	1184	0.15	(74)
triacontanoic acid	1096	1096	1198	0.14	(75)
triacontanoic acid	1110	1110	1212	0.13	(76)
triacontanoic acid	1124	1124	1226	0.12	(77)
triacontanoic acid	1138	1138	1240	0.11	(78)
triacontanoic acid	1152	1152	1254	0.10	(79)
triacontanoic acid	1166	1166	1268	0.09	(80)
triacontanoic acid	1180	1180	1282	0.08	(81)
triacontanoic acid	1194	1194	1296	0.07	(82)
triacontanoic acid	1208	1208	1310	0.06	(83)
triacontanoic acid	1222	1222	1324	0.05	(84)
triacontanoic acid	1236	1236	1338	0.04	(85)
triacontanoic acid	1250	1250	1352	0.03	(86)
triacontanoic acid	1264	1264	1366	0.02	(87)
triacontanoic acid	1278	1278	1380	0.01	(88)
triacontanoic acid	1292	1292	1394	0.00	(89)
triacontanoic acid	1306	1306	1408	0.00	(90)
triacontanoic acid	1320	1320	1422	0.00	(91)
triacontanoic acid	1334	1334	1436	0.00	(92)
triacontanoic acid	1348	1348	1450	0.00	(93)
triacontanoic acid	1362	1362	1464	0.00	(94)
triacontanoic acid	1376	1376	1478	0.00	(95)
triacontanoic acid	1390	1390	1492	0.00	(96)
triacontanoic acid	1404	1404	1506	0.00	(97)
triacontanoic acid	1418	1418	1520	0.00	(98)
triacontanoic acid	1432	1432	1534	0.00	(99)
triacontanoic acid	1446	1446	1548	0.00	(100)

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